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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/667,301

09/23/2003

Kiyonori Tsuda

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EXAMINER

BRASE, SANDRA L

ART UNIT

PAPER NUMBER

2852

NOTIFICATION DATE

DELIVERY MODE

05/18/2007

ELECTRONIC

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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## Office Action Summary

Application No.

10/667,301

Applicant(s)

TSUDA ET AL.

Examiner

Sandra L. Brase

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-26 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-6, 8-10, 12-14, 16-18, 25 and 26 is/are rejected.
- 7) ☒ Claim(s) 7, 11, 15 and 19-24 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 23 September 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☒ None of:
- 1) ☒ Certified copies of the priority documents have been received.
  - 2) ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
  - 3) ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |   |  |
|---|--|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. ____ |
| 2) <input type="checkbox"/> Notice of Draftperson's Patent Drawing Review (PTO-948)   | 5) <input type="checkbox"/> Notice of Informal Patent Application                      |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date <u>See Continuation Sheet</u> . | 6) <input type="checkbox"/> Other: ____  |

Continuation of Attachment(s) 3. Information Disclosure Statement(s) (PTO/SB/08), Paper No(s)/Mail Date :9/23/03; 1/9/04; 11/25/05; 1/6/06; 2/27/06; 1/4/07; 3/5/07 & 3/19/07.

## **DETAILED ACTION**

### ***Specification***

1. The disclosure is objected to because of the following informalities.

Appropriate correction is required.

On page 3, line 25, "and" should be changed to "an".

On page 11, line 11, "34" should be changed to "34Y".

On page 16, line 1, "9 and 10" should be changed to "10 and 11".

On page 19, line 22, "87" should be changed to "7".

### ***Claim Objections***

2. Claims 1-25 are objected to because of the following informalities. Appropriate correction is required.

In claim 1, line 5, "and" should be changed to "an".

In claim 6, line 4, "an" should be changed to "a".

In claim 8, line 4, "said support member" lacks proper antecedent basis.

In claim 10, lines 3 and 7, "said grip" lacks proper antecedent basis.

In claim 13, line 3, "said support member" lacks proper antecedent basis.

In claim 14, lines 3 and 7, "said grip" lacks proper antecedent basis.

In claim 22, line 4, "when" should be inserted between "ended" and "said".

In claim 25, line 8, "and" should be changed to "an".

***Claim Rejections - 35 USC § 102***

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. Claims 1, 2, 8, 12, 18, 25 and 26 are rejected under 35 U.S.C. 102(b) as being anticipated by Takashima et al. (US 6,366,755).

5. Takashima et al. (...755) discloses an image forming apparatus comprising: a process cartridge (13Y, 13M, 13C and 13Y) configured to include a developing device (17) comprising a developer carrier (48) configured to convey a developer deposited thereon to a developing zone where the developer carrier faces an image carrier (15) (figures 2 and 4) and a toner storing portion is configured to store a toner (figures 4 and 5), the developing device feeding the toner from the toner storing portion to the developer carrier (col. 8, lines 1-48; and figures 1, 2, 4 and 5); and a toner container (58), removably mounted to a body of the image forming apparatus, storing fresh toner to be replenished to the toner storing portion; wherein the process cartridge and the toner container each are removably mounted to the image forming apparatus independently of each other (figures 1, 4 and 8), and the toner conveying means conveys fresh toner from the toner container to the toner storing portion by using an own weight of the fresh toner is mounted on the body of the image forming apparatus (figures 1, 2 and 8; and col. 10, lines 15-35). The process cartridge is positioned at a lower level than an outlet of the toner container (figures 1 and 2). The toner storing body is configured to convey the toner stored in a

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preselected direction when rotated and is rotatable relative to a support member and the toner conveying means is operated in synchronism with a rotation of the toner storing body (col. 9, lines 9-25). The toner conveying means comprises a pipe forming a toner conveying path and a coil disposed in the pipe and movable to exert a conveying force on the toner toward a downstream side in a direction of toner conveyance (col. 9, lines 9-67; col. 10, lines 15-50; and figures 1 and 8). The process cartridge and the toner container respectively comprise a plurality of process cartridges (13K, 13C, 13M and 13Y) and a plurality of toner containers (44K, 44C, 44M and 44Y) (col. 7, lines 13-17), an intermediate image transferring unit (25) is positioned between the process cartridges and the toner containers (figure 2), the outlets of the toner cartridges, the toner conveying means and outlets of toner storing bodies are positioned at one side of the intermediate transferring unit (figures 1, 2 and 8). The process cartridge contains the image carrier (15) configured to form a latent image thereon, a charger (16) configured to uniformly charge the image carrier, the developing device (17), and a cleaning device (18) for removing toner left on the image carrier after transfer of the toner image to a recording medium (col. 7, lines 50-54).

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various

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claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

8. Claim 3 is rejected under 35 U.S.C. 103(a) as being unpatentable over Takashima (US 6,366,755) in view of Matsuoka et al. (US 5,890,040).

9. Takashima (...755) discloses the features mentioned previously, but does not disclose the mounting and dismounting direction of the toner container. Matsuoka et al. (...040) disclose an image forming apparatus including a plurality of toner containers (30K, 30C, 30M and 30Y) are mounted and dismounted from above an image forming body (figures 2 and 6). It would have been obvious to one of ordinary skill in the art at the time of the invention to mount and dismount the cartridges in the claimed direction, as disclosed by Matsuoka et al. (...040), since such a mounting and dismounting direction is well known in the art.

10. Claims 4-6, 10 and 14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Takashima et al. (US 6,366,755) in view of Otsuka et al. (US 5,774,773) and Nakajima (US 5,722,019).

11. Takashima et al. (...755) discloses the features mentioned previously, but do not disclose the claimed support member, shutter and grip. Otsuka et al. (...773) disclose a toner storing body and a support member affixed to an open portion of the toner storing body, the support

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member is formed with an outlet and the toner storing body is laid on and affixed to toner container storing means included in the body of the apparatus, and when the support member is locked to the toner container storing means, the outlet is communicated to an inlet formed in the toner container storing means (col. 5, lines 7-52; and figure 3). A shutter mechanism (16) attached to the outlet of the support member and movable in a circumferential direction of the outlet, and when the support member is turned by a preselected angle, the support member is locked to the toner container storing means while the shutter mechanism opens the outlet in interlocked relation to a movement of the support member (col. 5, lines 7-52; and figure 3). The shutter mechanism closes the outlet of the support member when the support member is turned in a direction opposite to a locking direction to thereby unlock the support member, and the toner container is removed from the body of the apparatus (col. 5, lines 53-63). It would have been obvious to one of ordinary skill in the art at the time of the invention to have the claimed support member and shutter, as disclosed by Otsuka et al. (...773), since such provides worry free operation without dirtying an operator or periphery devices. Nakajima (...019) discloses a grip (4g) on a toner storing body. It would have been obvious to one of ordinary skill in the art at the time of the invention to have the claimed grip, as disclosed by Nakajima (...019), to have the claimed grip so as to facilitate movement by an operator.

12. Claims 9 and 13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Takashima et al. (US 6,366,755) in view of Otsuka et al. (US 5,774,773).

13. Takashima et al. (...755) discloses the features mentioned previously, but do not disclose the claimed support member and the shutter. Otsuka et al. (...773) disclose a shutter mechanism



(16) attached to the outlet of a support member and movable in a circumferential direction of the outlet, and when the support member is turned by a preselected angle, the support member is locked to the toner container storing means while the shutter mechanism opens the outlet in interlocked relation to a movement of the support member (col. 5, lines 7-52; and figure 3). It would have been obvious to one of ordinary skill in the art at the time of the invention to have the claimed support member and shutter, as disclosed by Otsuka et al. (...773), since such provides worry free operation without dirtying an operator or periphery devices.

14. Claim 16 is rejected under 35 U.S.C. 103(a) as being unpatentable over Takashima (US 6,366,755) in view of Kitayama et al. (US 5,754,916).

15. Takashima (...755) discloses the features mentioned previously, but does not disclose the claimed toner content sensing means. Kitayama et al. (...916) disclose a toner content sensing means for sensing a toner content of a developer present in a developing device, the control means controls replenishment of the toner to the developing device in accordance with an output of the toner content sensing means (col. 3, lines 26-44). It would have been obvious to one of ordinary skill in the art at the time of the invention to have the claimed toner content sensing means, as disclosed by Kitayama et al. (...916), so as to keep toner density within the developing unit constant.

16. Claim 17 is rejected under 35 U.S.C. 103(a) as being unpatentable over Takashima (...755) in view of Kinoshita (JP 2002-268295).

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17. Takashima (...755) discloses the features mentioned previously, but does not disclose the claimed counting means. Kinoshita (...295) discloses a counting means for counting a number of pixels of an image formed and control means for controlling replenishment of toner to the developing device in accordance with an output of the counting means (abstract). It would have been obvious to one of ordinary skill in the art at the time of the invention to have the claimed counting means, as disclosed by Kinoshita (...295), so as to maintain a toner density level.

***Allowable Subject Matter***

18. Claims 7, 11, 15 and 19-24 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

***Inquiry***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Sandra L. Brase whose telephone number is (571) 272-2131.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Gray, can be reached on (571) 272-2119. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR

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system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

A handwritten signature in black ink, reading "Sandra L. Brase". The signature is fluid and cursive, with the first name "Sandra" and last name "Brase" clearly distinguishable.

Sandra L. Brase  
Primary Examiner  
Art Unit 2852

May 11, 2007